


INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

Rec'd PCT 11 MAR 2005

Applicant's or agent's file reference 903167	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/JP 03/11595	International filing date (day/month/year) 10.09.2003	Priority date (day/month/year) 17.09.2002
International Patent Classification (IPC) or both national classification and IPC B60K41/28		
Applicant TOYOTA JIDOSHA KABUSHIKI KAISHA et al.		
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of 20 sheets.</p>		
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the opinion</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>		
Date of submission of the demand 24.11.2003	Date of completion of this report 08.10.2004	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Bronold, H Telephone No. +49 89 2399-2013	



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I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-49 as originally filed

Claims, Numbers

1-78 received on 31.03.2004 with letter of 31.03.2004

Drawings, Sheets

1/22-22/22 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	
	No: Claims	1-78
Inventive step (IS)	Yes: Claims	
	No: Claims	1-78
Industrial applicability (IA)	Yes: Claims	1-78
	No: Claims	

2. Citations and explanations

see separate sheet

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Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Reference is made to the following documents:

- D1: US-A-5 991 669 (MUELLER JENS-OLAF ET AL) 23 November 1999 (1999-11-23)
- D2: US-A-5 351 776 (LEONHARD ROLF ET AL) 4 October 1994 (1994-10-04)
- D3: US-B-6 301 5281 (SCHMUCKER CLEMENS ET AL) 9 October 2001 (2001-10-09)
- D4: US-B-6 263 2621 (BOLZ MARTIN-PETER ET AL) 17 July 2001 (2001-07-17)
- D5: DE 198 29 150 A (BOSCH GMBH ROBERT) 13 January 2000 (2000-01-13)

2. Novelty Art. 33(1) and (2) PCT

- 2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1, 27 and 53 is not new in the sense of Article 33(2) PCT.

The document D1 discloses (the references in parentheses applying to this document):

A general drive control system provided in a vehicle (title, "...arrangement for controlling a vehicle...") including a plurality of actuators (column 3, line 44, "consumers") and an energy source common to the actuators (column 3, line 46, "source"), accomplishing a work by an operation of said plurality of actuators consuming energy supplied by said energy source, comprising a control apparatus generally controlling drive of said plurality of actuators, with amount of drive of each of the plurality of actuators being determined in a dimension of work (column 6, table 2) or power as work per unit time (column 3, lines 57 to 64, "The coordinator ... coordinates the making available and the consumption of the resource...", column 4, lines 17 and 18, "...The coordinator further asks the sources of the resource as to the available potential").

Although the applicant argues, that according to claim 1 all actuators provide the

respective work or power in the same physical dimension, whereas according to D1 mechanical energy and electrical energy have to be considered, the examining division is of the opinion that the dimension of power or work is the same for electrical and mechanical power or work, i.e. J (Joule) or W (Watt=Joule per second). Thus, the work or power according to D1 is also determined in the same physical dimension for all actuators.

The argued simultaneous setting of target values for the plurality of actuators is not claimed in claim 1.

Thus, all features of claim 1 are already known from the disclosure of D1. Consequently, the subject matter of claim 1 is not new in the sense of Art. 33(1) and (2) PCT.

- 2.2 The subject matter of claim 27 differs from the subject matter of claim 1 only in that the feature "control apparatus" of claim 1 is reformulated as "control means". Therefore, the subject matters of claims 1 and 27 are identical. Consequently, the above said with respect to the subject matter of claim 1 applies mutatis mutandis to the subject matter of claim 27.

Thus, all features of claim 27 are already known from the disclosure of D1. Consequently, the subject matter of claim 27 is not new in the sense of Art. 33(1) and (2) PCT.

- 2.3 Independent method claim 53 defines the purposive use of the apparatus according to the subject matter of claim 1. Therefore, the above reasoning with respect to the subject matter of claim 1 applies mutatis mutandis to the subject matter of claim 53.

Thus, all features of claim 53 are already known from the disclosure of D1. Consequently, the subject matter of claim 53 is not new in the sense of Art. 33(1) and (2) PCT.

- 2.4 Dependent claims 2 to 26, 28 to 52 and 54 to 78 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step, see documents D1 to D5 and the corresponding passages cited in the search report.

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More specifically, D1 also discloses to use work or power as a target value or relation for the plurality of actuators, as claimed in claims 2, 3, 28, 29, 54 and 55 (column 4, lines 34 to 46, and column 6, table 2).

3. Clarity Art. 6 PCT

- 3.1 Although claims 1 and 27 have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter and to differ from each other only with regard to the definition of the subject-matter for which protection is sought and in respect of the terminology used for the features of that subject-matter. The aforementioned claims therefore lack conciseness and as such do not meet the requirements of Article 6 PCT.

INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER		
IPC 7	B60K41/28 B60T10/00	B60K6/04 B62D6/00
B60H1/00	B60L11/00	B60Q1/00
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED		
Minimum documentation searched (classification system followed by classification symbols)		
IPC 7 B60K B60H B60L B60Q B60T B62D		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the International search (name of data base and, where practical, search terms used)		
EPO-Internal		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 991 669 A (MUELLER JENS-OLAF ET AL) 23 November 1999 (1999-11-23)	1-14, 17-38, 41-62, 65-72
Y	Column 1, line 34 to column 7, line 45, figures 1 to 3, abstract	15,16, 39,40, 63,64
Y	US 5 351 776 A (LEONHARD ROLF ET AL) 4 October 1994 (1994-10-04) Column 8, lines 62 to 67, abstract	15,16, 39,40, 63,64
X	US 6 301 528 B1 (SCHMUCKER CLEMENS ET AL) 9 October 2001 (2001-10-09) Column 2, line 3 to column 5, line 57, figures 1 to 3, abstract	1,25,49
-/--		
<input checked="" type="checkbox"/> Further documents are listed in the continuation of box C. <input checked="" type="checkbox"/> Patent family members are listed in annex.		
* Special categories of cited documents : *A* document defining the general state of the art which is not considered to be of particular relevance *E* earlier document but published on or after the international filing date *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) *O* document referring to an oral disclosure, use, exhibition or other means *P* document published prior to the international filing date but later than the priority date claimed *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art *&* document member of the same patent family		
Date of the actual completion of the international search		Date of mailing of the international search report
19 December 2003		05/01/2004
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016		Authorized officer Bronold, H

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 263 262 B1 (BOLZ MARTIN-PETER ET AL) 17 July 2001 (2001-07-17) Column 3, line 25 to column 5, line 36, figures 1 and 2, abstract ---	1,25,49
X	DE 198 29 150 A (BOSCH GMBH ROBERT) 13 January 2000 (2000-01-13) Column 7, line 56 to column 11, line 43, figures 1 to 5, abstract -----	1,25,49

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Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Present claims 1 to 72 relate to an extremely large number of possible general drive control systems and general drive control methods for machines, respectively. Support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT is to be found, however, for only a very small proportion of the general drive control systems and the general drive control methods for machines claimed.

In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Consequently, the search has been carried out for those parts of the claims which appear to be supported and disclosed, namely those parts relating to the general drive control systems and general drive control methods for machines, wherein the machine is a vehicle, as claimed in claims 23, 47, and 71, respectively.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/SA 03/11595

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 5991669	A	23-11-1999	DE	19709317 A1	10-09-1998
			JP	10250416 A	22-09-1998
US 5351776	A	04-10-1994	DE	4111023 A1	08-10-1992
			BR	9201195 A	01-12-1992
			DE	59208827 D1	02-10-1997
			EP	0507072 A2	07-10-1992
			JP	5085228 A	06-04-1993
US 6301528	B1	09-10-2001	DE	19857916 A1	21-06-2000
			WO	0035714 A1	22-06-2000
			EP	1053129 A1	22-11-2000
			JP	2002532319 T	02-10-2002
US 6263262	B1	17-07-2001	DE	19838337 A1	02-03-2000
			WO	0010850 A1	02-03-2000
			EP	1037781 A1	27-09-2000
			JP	2002523283 T	30-07-2002
DE 19829150	A	13-01-2000	DE	19829150 A1	13-01-2000
			WO	0001558 A1	13-01-2000
			EP	1034095 A1	13-09-2000
			JP	2002519242 T	02-07-2002